

Math 110 Final Exam Review

26. $n=600$, $73 = x$

Variable: drug test results (+/-) (categorical)

27. Proportion = p

28. One.

29. $\alpha = .05$. $H_1: p > .10$, $H_0: p = .10$

30. $np = 600(.10) = 60 \geq 10$, $nq = n(1-p) = 600(.90) = 540 \geq 10$
 Criteria are met.

31. $\sigma_{\hat{p}} = \sqrt{\frac{pq}{n}} = \sqrt{\frac{.10 \times .90}{600}} = \underline{.0122}$

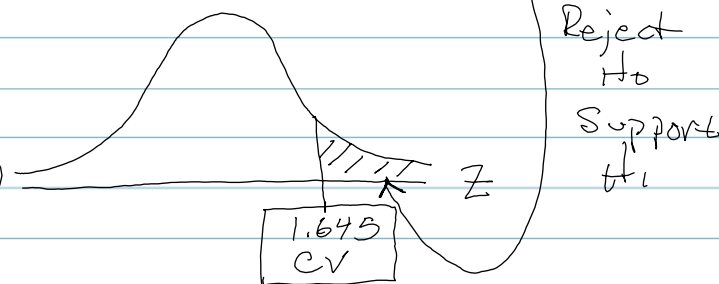
#32
 $TS \quad Z = \frac{\hat{p} - p}{\sqrt{\frac{pq}{n}}} = \frac{.122 - .10}{\sqrt{\frac{.10 \times .90}{600}}} = 1.796 \approx \underline{1.80}$

$\hat{p} = \frac{x}{n} = \frac{73}{600} = 0.122$

Critical Value (Table A2)

df $\alpha = .05$
 one tail

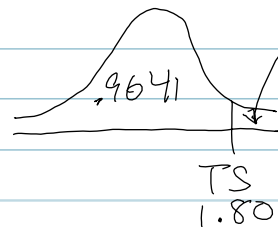
large (z) $\rightarrow 1.645$



#33 z-pval - Table A1

$z \rightarrow .00$

$1.8 \rightarrow .9641$



$1 - .9641 = .0359$

$pval = .0359 < \alpha$
 Reject H_0
 Support H_1

#34 Support H_1

#35 The data support the claim that more than 10% of CA applicants test positive in drug screening tests.